1X FQPA

Use Site	21-day EDWC
Ginseng	1
Figs	3.05
Beet	3.25
Clover	3.27
Onion	3.35
Golfcourse	3.71
Mint	6.48
Asparagus	7.28
Wheat	7.98
Tobacco	8.52
Sugarbeet	8.52
Carrot	8.94
Legume	10.7
Plum	14.5
Turnip	14.7
Strawberry	14.9
SweetCherries	15.2
Cotton	15.3
Pear	16.3
Apple	17.5
Filbert	18.3
Radish	18.6
Rutabaga	19.9
Nectarine	20
Sweetpotato	20.2
Sunflower	20.4
Sorghum	20.5
Cauliflower	23.7
Alfalfa	24.8
Nursery	25
Walnut	27.5
Soybean	28.9
Christmas Tree	29.1
Grapes	29.2
Almond	31.7
Colecrop	32.9
Peanut	33.5
Corn	46.1
Peach	49.3
Citrus	49.6
Pepper	56.7
Pecan	68.4
TartCherries	98.8

10X FQPA

Use Site	21-day EDWC
Ginseng	0.996
Figs	3.05
Beet	3.25
Clover	3.27
Onion	3.35
Golfcourse	3.71
Mint	6.48
Asparagus	7.28
Wheat	7.98
Tobacco	8.52
Sugarbeet	8.52
Carrot	8.94
Legume	10.7
Plum	14.5
Turnip	14.7
Strawberry	14.9
SweetCherries	15.2
Cotton	15.3
Pear	16.3
Apple	17.5
Filbert	18.3
Radish	18.6
Rutabaga	19.9
Nectarine	20
Sweetpotato	20.2
Sunflower	20.4
Sorghum	20.5
Cauliflower	23.7
Alfalfa	24.8
Nursery	25
Walnut	27.5
Soybean	28.9
Christmas Tree	29.1
Grapes	29.2
Almond	31.7
Colecrop	32.9
Peanut	33.5
Corn	46.1
Peach	49.3
Citrus	49.6
Pepper	56.7
Pecan	68.4
TartCherries	98.8

Attachment 2:

Percent Crop Treated with Chlorpyrifos and Acres Harvested.

Crop	Acres Harvested	Percent Treated with Chlorpyrifos	Acres Affected by Tolerance Revocation
Alfalfa	18,375,000	6%	1,029,000
Almond	822,000	18%	144,000
Apple	327,000	60%	196,000
Apricot	11,400	<1%	100
Asparagus, Michigan	9,500	60%	5,700
Asparagus, other states	16,200	50%	8,100
Beans, succulent	269,000	2%	4,700
Beans, dry	1,533,200	<1%	6,200
Brassica crops			
Broccoli	128,000	33%	41,800
Cabbage	60,200	10%	5,900
Cauliflower	36,600	31%	11,300
Other *Brassica* [1]	15,700	33%	5,100
Canola	1,401,000	4%	57,400
Celery	28,600	<1%	<100
Cherry, Sweet	87,400	30%	25,900
Cherry, Tart	37,100	37%	13,700
Corn	84,700,000	1%	677,000
Cotton, seed treatment	9,270,000	5%	482,000
Cotton, foliar treatment	9,270,000	1%	126,000
Cranberry	40,000	31%	12,400
Fig	7,500	<1%	<100
Garlic	24,300	1%	200
Grapefruit	72,500	31%	22,400
Grape, Raisin	201,000	6%	11,000
Grape, Table	105,000	40%	41,800
Grape, Wine	592,000	4%	22,600
Hazelnut	29,300	11%	3,300
Lemon	55,000	28%	15,600
Mint	92,200	50-100%	46,200-92,200
Onion	145,000	40%	57,800
Orange, California	177,000	22%	38,800
Other Citrus, California [2]	47,400	22%	10,300
Orange, Florida	434,000	22%	95,000
Other Citrus, Florida [2]	41,000	22%	9,000

Crop	Acres Harvested	Percent Treated with Chlorpyrifos	Acres Affected by Tolerance Revocation
Peach, Georgia and South Carolina	26,000	70%	18,000
Peach, other states	84,000	13%	11,000
Peanut	1,260,000	9%	114,000
Pear	51,700	12%	6,000
Peas, succulent	179,000	<1%	400
Pecan	494,000	23%	115,000
Pepper	66,900	1%	500
Pistachio	179,000	<1%	300
Plum/Prune	74,800	4%	2,900
Potato	1,070,000	<1%	400
Sorghum	5,350,000	1%	59,500
Soybean	77,100,000	4%	3,080,000
Strawberry, Oregon	1,900	32%	600
Strawberry, other states	56,700	19%	10,800
Sugarbeet, Minnesota	447,000	4%	17,600
Sugarbeet, North Dakota	219,000	17%	36,100
Sugarbeet, other states	510,000	21%	106,000
Sunflower	1,630,000	8%	123,000
Sweet Corn [3]	554,000	10%	54,300
Tobacco	347,000	11%	37,300
Tomato	372,000	<1%	1,600
Walnut	272,000	46%	124,000
Wheat, Spring	14,000,000	6%	783,000
Wheat, Winter	32,600,000	2%	549,000
Total			**8,527,000**

Source: USDA NASS, 2010-2015; MRD, 2010-2015. Figures are rounded.

[1] Includes Brussels sprouts, chinese cabbage, and other related leafy vegetables. Affected acreage estimated using proportion of broccoli acres treated with chlorpyrifos.

[2] Includes lime, tangerine, and citrus fruit. Affected acreage estimated using proportion of oranges acres treated with chlorpyrifos, by state.

[3] Percent treated and acres affected do not include use of seed treated with chlorpyrifos.

Impacts of Revoking Chlorpyrifos Tolerances, Per-acre and Total Annual Costs.

Crop	Impact/Acre	Acres Affected	Total Annual Cost
Alfalfa	$0 - $1	1,029,000	$0 - $1,029,000

Crop	Impact/Acre	Acres Affected	Total Annual Cost
Almond [0]	$7 - $35	144,000	$1,009,000 - $5,040,000
Apple [0]	$12 - $51	196,000	$2,346,000 - $9,971,000
Apricot [1]	$7 - $33	100	$1,000 - $4,000
Asparagus, Michigan	$0 - $450	5,700	$0 - $2,569,000
Asparagus, other states [2]	$6 - $20	8,100	$49,000 - $162,000
Beans, succulent [3]	$29	4,700	$137,000
Beans, dry	$0 - 19	6,200	$118,000
Brassica crops			
Broccoli	$2,830	41,800	$118,196,000
Cabbage	$3,096	5,900	$18,200,000
Cauliflower	$3,798	11,300	$43,064,000
Other *Brassica* [4]	$3,812	5,100	$19,628,000
Canola	$2 - $3	57,400	$115,000 - $172,000
Celery	negligible	100	negligible
Cherry, Sweet	$3 - $65	25,900	$78,000 - $1,684,000
Cherry, Tart	$18 - $170	13,700	$292,000 - $439,000
Corn	$6 - $8	677,000	$4,060,000 - $5,414,000
Cotton, seed treatments	$0 - $9	482,000	$0 - $4,338,000
Cotton, foliar treatments	$0 - $14	126,000	$0 - $1,768,000
Cranberry	$14 - $35	12,400	$174,000 - $434,000
Fig	negligible	negligible	negligible
Garlic	negligible	200	negligible
Grapefruit	$9 - $44	22,400	$202,000 - $987,000

Crop	Impact/Acre	Acres Affected	Total Annual Cost
Grape, Raisin	$4 - $30	11,000	$331,000
Grape, Table	$7 - $130	41,800	$293,000 - $5,439,000
Grape, Wine	$4 - $91	22,600	$90,000 - $2,058,000
Hazelnut	$0 - $3	3,300	$0 - $10,000
Lemon	$10 - $290	15,600	$156,000 - $4,526,000
Mint [5]	$19	46,100 – 92,200	$876,000 - $1,752,000
Onion	$11 - $66	57,800	$636,000 - $3,815,000
Orange, California	$8 - $193	38,800	$310,000 - $7,795,000
Other California Citrus	$8 - $201	10,300	$117,000 - $2,818,000
Orange, Florida	$2 - $33	95,000	$190,000 - $3,134,000
Other Florida Citrus	$2 - $33	9,000	$18,000 - $296,000
Peach, Georgia and South Carolina	$12 - $430	17,900	$215,000 - $7,703,000
Peach, other states	$8 - $29	11,000	$88,000 – $297,000
Peanut [0,5]	$10	114,000	$1,143,000
Pear	$5 - $37	6,000	$30,000 - $223,000
Peas, succulent	$10 - $370	400	$4,000 - $166,000
Pecan	$1 - $11	115,000	$115,000 - $1,262,000
Pepper	$5 - $10	500	$2,000 - $5,000
Pistachio	negligible	negligible	negligible
Plum/Prune	$7 - $33	2,900	$20,000 - $96,000
Potato	negligible	400	negligible
Sorghum	$2	59,500	$119,000
Soybean	$1 - $5	3,080,000	$3,080,000 - $12,321,000
Strawberry, Oregon	$6 - $7,813	600	$3,600 - $4,258,000

Crop	Impact/Acre	Acres Affected	Total Annual Cost
Strawberry, other states	$10 - $65	10,500	$105,000 - $686,000
Sugarbeet, Minnesota	$8 - $668	17,600	$141,000 - $11,758,000
Sugarbeet, North Dakota	$8 - $645	36,100	$289,000 - $23,310,000
Sugarbeet, other states	$14 - $17	106,000	$1,481,000 - $1,798,000
Sunflower	$0 - $1	123,000	$0 - $123,000
Sweet Corn[6]	$1 - $3	54,300	$54,000 - $163,000
Tobacco[3]	$4	37,300	$149,000
Tomato[3]	$7	1,600	$11,000
Walnut	$2 - $36	124,000	$248,000 - $4,457,000
Wheat, Spring	$0 - $1	783,000	$0 - $783,000
Wheat, Winter	$0 - $1	549,000	$0 - $549,000
Total		**8,527,000**	**$214,916,000 - $331,632,000**

Source: EPA estimates of per-acre impacts (Chapter 3.3); average acres treated at least once with chlorpyrifos based on Market Research Data (MRD, 2010-2014). Figures subject to rounding.

0 Cost estimates do not account for possible yield losses.

1 Assumes same per-acre cost as for plums/prunes.

2 Range is from $6-10/acre, with some acres treated twice, average of 1.4 applications per affected acre (MRD, 2010-2014).

3 No range estimated. Limited data suggest only single alternative.

4 Includes Brussels sprouts, chinese cabbage, and other related leafy vegetables. Range of cost is extrapolated from cabbage; affected acreage estimated using proportion of broccoli acres treated with chlorpyrifos.

5 No range estimated for per-acre cost. Limited data suggest only single alternative. No information available on acres treated with chlorpyrifos; range is from 50-100% of the crop.

6 See treatment usage data were not available for sweet corn, so the percent of the crop treated is underestimated and thus the per acre cost of revoking the chlorpyrifos tolerance may also be underestimated.